

Internet of Things

Master IoT fundamentals and transform business models with advanced skills



Transform your business with the Internet of Things

Acquire expert knowledge in IoT and learn to drive business innovation. This IoT module provides a solid understanding of IoT basics, applications, and their impact on business models.

Study IoT architecture, communication protocols, devices and data management techniques.

You'll also explore IoT security, connectivity options, and risk management. Additionally, develop project management skills and examine real-world case studies to see how IoT can revolutionise business models.

Learning objectives

The Internet of Things curriculum provides an in-depth understanding of IoT basics, applications, and their impact on business models. By the end of this module, students will be able to:

Critically analyse IoT architectures and protocols, identifying their suitability for different business applications.

Design and develop IoT solutions to address specific business challenges, integrating hardware, software, and network components.

Evaluate the performance and scalability of IoT systems in real-world business scenarios, proposing improvements. Apply IoT data analytics techniques to derive actionable insights for business decision-making.

Collaborate effectively in teams to develop IoT solutions, enhancing team competences and communication skills.

Criteria — are you eligible?

- **Language proficiency:** Minimum B2 English proficiency, or 2 years' work or education in an English-speaking environment. IELTS: 6.0; TOEFL PBT: 600; TOEFL CBT: 200; TOEFL iBT: 100. Alternatively, proficiency may be assessed via a test or interview.
- **Education:** Relevant EQF Level 6 qualification required in a relevant field including but not limited to: computer science, IT, engineering, maths, business, or economics. Without this you will have an interview and assessment to evaluate certifications, qualifications or professional experience.
[*EQF levels explained](#)
- **Residency:** This EU co-funded programme is open to all [EU27](#), EEA, UK and Ukrainian nationals with a passport or valid ID from one of these countries.

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Opening opportunities for aspiring innovators

This module is aimed at professionals, students, and industry stakeholders interested in how IoT technologies can drive business innovation. It is designed for future IoT project managers, data analysts, business strategists, and professionals involved in digital transformation. Graduates will gain the ability to manage IoT projects, innovate with data-driven business models, and address critical challenges in IoT security and data management in a business environment.

Experience interactive and engaging teaching methods

Teaching methods include lectures, guest lectures, seminars, case study analysis, and a flipped classroom approach. Both ongoing and final assessments will measure student progress. Ongoing assessments provide feedback to help improve your study pathway. Clear assessment rubrics and criteria will be provided for each topic.

Various assessment tools such as exams, assignments, projects, and exercises will directly measure your knowledge, skills, and competencies. The final grade consists of a 50% proctored written exam and a 50% end-of-term project.

Time commitment

- Classroom and demonstrations: 24 hours
- Practical work/tutorials: 24 hours
- Independent learning: 77 hours
- Total: 125 hours

Credit points

- 5 ECTS

Full course content

Internet of Things is a 5 ECTS module that runs for 12 weeks, with 2 hours of live class time and 2 hours asynchronous content each week. Here's a schedule of the topics:

● IoT Fundamentals for Business

- Historical development
- Key concepts
- Applications across industries

● IoT Business Models and Strategies

- Value creation
- Monetization
- Competitive advantage
- Case studies

● IoT Architecture and Protocols

- Components
- Communication protocols
- Data management

● IoT Devices and Sensors

- Functions and applications
- Types of sensors, including motion sensors

● IoT Connectivity and Networking

- Connectivity options
- Networking technologies
- Challenges

● IoT Security and Privacy in Business

- Security concerns
- Mitigation strategies
- Business implications

● IoT Data Analytics for Business

- Data processing
- Storage
- Analysis techniques
- Tools and platforms

● IoT Cloud Computing for Business

- Cloud-based IoT platforms
- Services
- Benefits and challenges

● IoT Edge Computing for Business

- Benefits
- Challenges
- Use cases
- Fog computing

● IoT Project Management for Business

- Principles
- Practices
- Methodologies
- Risk management

● IoT Standards and Regulations for Business

- Industry standards
- Data protection
- Compliance

● IoT Business Model Development Case Studies and Future Trends

- Case studies
- Future trends
- Impact of emerging technologies such as AI and quantum computing

Thank You!

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